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Scientists discovers a series of beneficial bacteria missing in the gut of COVID-19 patients

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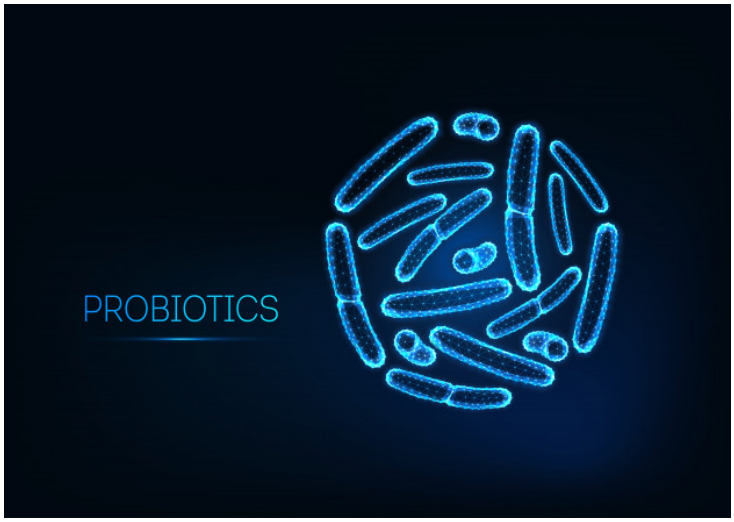
Researchers at the Chinese University of Hong Kong (CUHK) are developing a probiotic formula to indirectly boost healthy individual’s immune systems and to assist COVID-19 patients in fast recovery. The formula will contain missing beneficial probiotic gut bacteria necessary to maintain the immune capacity of an individual. Clinical study trail using metagenomics and big data analytics will assess the effect of a probiotic formula on COVID-19 patients, people at higher risk of contracting the virus, and a healthy population.



The research team at CUHK has developed and testing a probiotic formula that aims to reverse gut dysbiosis by re-introducing similar beneficiary microbiota found in a healthy gut

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The team conducting a probiotic study on both healthy individuals and COVID-19 patients with mild and high risk. According to the study, COVID-19 patients had higher levels of *Clostridium hathewayi, Bacteroides nordii, and Actenomyces viscosus* in comparison to healthy individuals. On the other hand, good bacteria such as *Fecalibacterium prausnitzii, Lachnospiraceae bacterium, Eubacterium rectale, Ruminococcus obeum, and Dorea formicigeneran* were depleted in these patients. The study is recently published in the Gastroenterology journal.

Prof Siew Chien Ng, associate director of the centre for Gut Microbiota Research at CUHK said,” Gut microbiota contains trillions of bacteria and is in equilibrium in healthy people. The gut microbiota regulates the immune system, and an imbalance (dysbiosis) would result in lower immunity and higher susceptibility to infections”.

“There were 23 types of unfavorable bacteria found in COVID-19 patients. More the unfavorable bacteria found in patients, the more severe their symptoms were. After patients have cleared the virus, even up to 30 days, they still have abnormal gut bacterial profiles in their stool and may have disturbance in regard to health. This could still put them at high risk of having secondary infection” says Prof Ng.

To help such patients, the team successfully developed a probiotic formula that aims to target gut dysbiosis. The probiotic formula is derived from a recent study at CUHK by comparing the missing beneficial bacteria in COVID-19 patients with 1500 healthy Chinese gut bacteria profile. The strains used have been tested for stability under gastric acid. The formula will be tested in a three-wing study, which involves COVID-19 patients, high-risk individuals, and a healthy population. The formula is in the midst of applying for a patent in China and the US.